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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/147,325	02/17/99	LEIJON M	9847-0001-6X

MM91/0929

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EXAMINER	
ENAD, E	
ART UNIT	**PAPER NUMBER**
2834	

DATE MAILED: 09/29/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/147,325	Applicant(s) Leijon et al.
	Examiner Enad, Elvin	Group Art Unit 2834

☒ Responsive to communication(s) filed on *Mar 21, 2000* .

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *77-153* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *77-153* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 91,93 and 124 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 91 and 93 state the sheet of elastic material and pad respectively, include slots formed therein and claim 124 states that the inserting step of the hose-like element in the slot and at least another slot is in a to-and-fro pattern. Neither the specification nor the drawings discuss and/or show support of this claim limitations.

4. Claims 77,121,122,133 and 143 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. In claim 77, lines 4 and 5, the meaning of the limitation pertaining to the winding having an insulation system "with" a... is vague. It is unclear whether the winding or the insulation system is comprised of the semiconducting layers, solid insulation, etc,.

6. With regard to claims 121 and 122, reference to "said filling step..." is lacking proper antecedent basis.

7. With regard to claim 133, the meaning of the phrase pertaining to the second semiconducting layer as an outer semiconducting layer having corrugations "as said corrugated sheath surface" is confusing. Furthermore, reference to "said corrugated sheath surface" is lacking proper antecedent basis.

8. With regard to claim 143, the meaning is confusing as to what the support element having a cross-sectional profile "a sufficient clearance....".

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 77-84,87-93,103-112,116-125,127,129,130,136 and 153 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 4,853,565) and further in view of Wood (British Patent 1,135,242).

Shildneck discloses the claimed invention except for having his cable winding comprised of at least a semiconducting layer around the conductor and having a support member positioned in contact with the winding. Shildneck discloses an improved continuous winding for an electromagnetic device such as a large turbine-driven generator, the winding employing an improved form of flexible insulated conductor for the laminated armature core of the dynamo electric machine.

Elton et al. teach that it is known to have an electrical cable comprising an internal grading layer of semi-conducting pyrolyzed glass fiber layer in electrical contact with the cable conductor. Elton et al. teach having his electrical conductor comprised of a solid insulation layer **106** between two semi-conducting pyrolyzed glass fibers **104**, **110**, the internal grading layer **104** surrounding the conductors of cable **100**. In another form of embodiment, Elton et al. teach an electrical cable provided with an exterior layer of internal grading layer of semi-conducting pyrolyzed glass fiber layer in contact with an exterior cable insulator with a predetermined reference potential.

Wood teaches an improvement of packing means for conductors in stator slots of a dynamo-electric machines. The packing means is suitable for high power generators and is inflatable with a pressurized fluid medium. Furthermore, the packing means exert pressure resiliently against the conductors, both radially and tangentially, consisting of inflatable tubes extending axially along each slot or connected to a common manifold. The use of inflatable packing means facilitate insertion and make it possible to achieve compressive resilience to compensate for any shrinkage of conductor isolation. Wood further teaches that the packing

means can be either connected to a supply of pressurized fluid medium by means of a common manifold or if the fluid medium is elastically compressible, each packing means may be sealed at both ends after inflation. The elastically compressible medium can be made of elastomeric material such as silicone rubber.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the cable winding as taught by Elton et al. to the dynamo electric machine of Shildneck, the winding employing a semi-conducting layer since such a modification according to Elton et al. would prohibit the development of corona discharge and would equalize the electrical charge generated between two layers. Moreover, to have placed support members with the winding as taught by Wood to the winding arrangement as disclosed by Shildneck would have been obvious since such a modification according to Wood would restrict movement of the conductors in the stator slots.

11. In regard claim 78, having the semiconducting layer the same coefficient of thermal expansion as that of the insulation layer would have been obvious to one having ordinary skill in the art since it was known that having the expansion rate between two layers the same would be desirable in order to prevent cracking of the insulation and reduce wearing between the two.

12. With regard to claim 80, it is noted that in pages 2 and 4 of the specification, applicant readily admits that the concept of connecting generators directly to a power network without intermediate transformers is known and possible using superconducting rotors.

13. Claims 85 and 86 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 4,853,565) and Wood (British Patent 1,135,242), as applied 79 above, and further in view of Mazzorana (French Patents 2,594,271 and 2,556,146).

Shildneck in view of Elton et al. and Wood disclose the claimed invention except for a teaching of varying the stator slot shape and cross-section. Wood as seen in figures 1-5 teaches various configurations in positioning his pressure elements.

Mazzorana as seen in figures 1-5 teaches various ways of forming the slot shapes and its cross-sections.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the teachings of Mazzorana and to have modified the slot shapes and cross-section of Shildneck according to the design requirements. Furthermore, it has been held that a mere change in size or shape is generally recognized as being within the level of ordinary skill in the art. ***In re Rose,* 105 USPQ 237 (CCPA 1955).**

14. Claims 94-102,126,128,131-135,137-144, and 148-152 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 4,853,565) and Wood (British Patent 1,135,242), as applied to claims 88,89 and 94 above, and further in view of Grant (USP 5,325,008).

Shildneck in view of Elton et al. and Wood disclose the claimed invention except for having a corrugated sheet as a pressure member formed either in a longitudinal direction of the cable or surrounding the cable.

Grant teaches an installation and method of installing a constrained ripple spring assembly with a debondable adhesive. Grant teaches the ripple spring is adhesively secured to a flat surface, the spring mounted in the slot next to the winding and at a predetermined elevated temperature, the adhesive bonding is broken. The spring expands into a natural corrugated shape to apply a loading against the wedges and the winding.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the ripple spring assembly as taught by Grant as pressure members to the device of Shildneck in view of Elton et al. and Wood since such a modification according to column 2, lines 19-22 of Grant would provide loading which tightens the arrangement of the windings, filler strips and wedges in the slots.

15. Claims 113-115 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 4,853,565) and Wood (British Patent 1,135,242), as applied to claims 103 above, and further in view of Siemens (German Patent 468,827).

Shildneck in view of Elton et al. and Wood disclose the claimed invention except for the stator comprising of slot(s) having a profile with respective wide parts and narrow parts.

Siemens teaches that it is known to have a stator having cylindrical opening winding slots with decreasing radius in order to accommodate the winding conductors having varying diameters.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the stator slot arrangement as taught by Siemens and to have modified the stator slot arrangement of Shildneck since such a modification according to column 1, lines 25-29 of Siemens would accommodate conductors having varying diameters and would appropriate for the different potentials occurring with respect to the low potential end of the windings.

16. Claims 145-147 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 4,853,565) and Wood (British Patent 1,135,242), as applied to claim 136 above, and further in view of Madsen (USP 3,932,779).

Shildneck in view of Elton et al. and Wood disclose the claimed invention except for a teaching of a method of inserting the support element as claimed.

Madsen teaches a turbo-generator comprised of rotor winding including a plurality of slots and wedges inserted, a plurality of relatively thin pressure tubes of a deformable material positioned in the slots. The pressure tubes are supplied with a thermosetting resin through feed tubes, the resin being supplied at a sufficient pressure and in a sufficient amount to produce an expansion of space within the tube. The feed tube is then subjected to heat in a localized area forming a plug after which the supply of pressure to the pressure tube is removed. After the resin in the pressure tube has hardened, the feed tube is removed.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the teachings of Madsen in forming the support element as provided by Wood, since such a method according to column 1, lines 43-46 of Madsen is reliable and could be performed without the use of hydraulic means.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvin Enad whose telephone number is (703) 308-7619.

19. Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956. The fax phone number for this Group is (703) 305-3431 (32).

Elvin Enad
Primary Examiner
Art Unit 2834
09.26.2000